Local Trust
trusting
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people

centre for
sustainable
energy

Retrofit your community building

A COMMUNITY ACTION PLAN



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TIPS BEFORE YOU GET STARTED

Managing a community building involves keeping running costs as low as possible, while making the space affordable and comfortable for people to use. After all, no one wants to do yoga in a cold village hall or hire a leaky room! This action plan will help you understand how to make your community building more energy-efficient.

From reducing energy wastage (and costs) to better understanding your building, working with tradespeople and setting up a maintenance schedule, this action plan is full of great advice from the Centre for Sustainable Energy (CSE).

It also includes tips from Par Bay Big Local and Marsh and Micklefield Big Local who have retrofitted their buildings to make them more energy-efficient.

WHAT IS RETROFITTING?

Retrofitting means making changes to something that has already been constructed or manufactured. Retrofitting a building means adding new features (such as new windows) or systems (such as solar panels) to make it more efficient to run.



Left: Selby Big Local (Photo: Jonathan Pow)

Keep in mind...

Energy improvements to your building can range from low-cost and simple changes to larger-scale physical changes, which may be complex and costly. As you embark on retrofitting your community building, here are some guiding principles:

1. Engage and involve building users

The people who use and manage your building must be involved in this journey, otherwise you risk making improvements in vain. The physical changes to the building need to be supported by behaviour changes from its users.



2. Maintenance first

Maintaining your building is vital to make sure it is working as effectively as possible. For example, rotten windows will let in draughts; cracks in render or guttering may lead to penetrating damp, which in turn makes it harder to heat the building well. Maintenance should be done before undertaking larger energy efficiency improvements. If existing issues aren't tackled, you risk undoing your work or your improvements not working effectively.

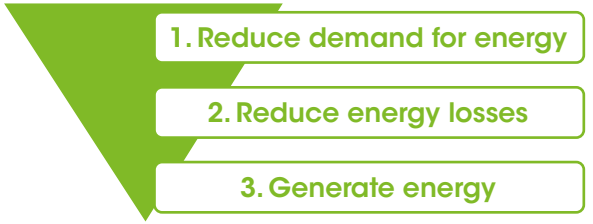


3. Follow the energy hierarchy

This diagram shows the order you should consider making changes in your building, from low-cost, simple changes to more complex retrofitting.

1) Reduce wastage of energy and demand for it where possible
2) Improve the energy efficiency of your building and reduce the amount of energy you are losing
3) Explore ways to generate your own renewable and low carbon heating options

The energy hierarchy



Left: Hackney Wick Big Local (Photo: Andrew Aitchison)

How to understand and maintain your building

Your building is a crucial member of your team. It's always evolving and requires understanding and attention to keep it operating efficiently. Here are four ways to help you keep track of what it needs.

1. Gather data and start monitoring

Start a folder for your building where you can save all relevant documents linked to maintenance. Track your energy bills and begin to record information about:

- **when the building is occupied and how it's used**
- **when the heating is on**
- **when the building feels comfortable (warm or cool enough)**
- **when the building feels uncomfortable (too hot or too cold)**

2. Do an audit of your building

Using CSE's free energy survey, walk around your building to better understand how it works and record any issues. For example, you may have overflowing gutters or broken roof tiles. Review your building fabric and do this walk-around audit regularly to check for new issues.

What is 'building fabric'?

'Building fabric' means the parts of the building that link to the outside, which are vulnerable to external factors like rain, heat or cold. Just as human bodies regulate our breathing, sweat, and temperature, buildings also need the amount of air, water and heat in them to be regulated.



Download CSE's free energy survey

Click here

3. WRITE A MAINTENANCE PLAN

A maintenance plan can simply be a list of the key issues that you've identified, which you can then prioritise. Write out the steps that need to be taken to address them, as well as who is going to take on the task and by when. This could be anything from changing a lightbulb to getting the boiler serviced once a year, or more substantial work like replacing windows. Maintaining the building regularly should help you avoid more urgent and pricey interventions.



4. IMPLEMENT ENERGY SAVING BEHAVIOURS AND LOW-COST MEASURES

Start by considering simple, low risk/low-cost measures such as draught-proofing, heavy curtains and shutters, switching to efficient lighting and appliances, efficient water use, and effective heating controls.

"YOU NEED TO KNOW EXACTLY HOW MUCH ENERGY YOU ARE USING. WE HAVE DAYTIME AND NIGHT-TIME ENERGY PRICES AND WERE CAUGHT OUT A FEW YEARS AGO BY THE ELECTRIC COMPANY CHANGING THE RATE PER UNIT'. I NOW READ THE METER EVERY MONTH AND KEEP A SPREADSHEET OF USAGE WHICH HAS COME IN USEFUL."

Sonia, Par Bay Big Local

Top tip

Ask your building users for feedback and ideas. You may not be experiencing the building in the evenings for example, but the 8pm Zumba class attendees will know whether the building is too hot or too cold!



Right: Selby Big Local (Photo: Jonathan Pow)

How to make your building more energy-efficient

As well as day-to-day maintenance, your building audit may throw up some bigger issues. Maybe your heating bills are sky high, despite the heating rarely being on. Or perhaps you have a damp problem in the toilets. Here are four ways to better understand your building and make it more energy-efficient.

1. Regulate your building's temperature

After maintenance and low-cost energy efficiency measures, to further reduce heat loss from a building, you could add insulation to the walls, roofs, floors and around windows and doors. It's critical to understand that the viability of insulation, and which materials will work best (e.g. wood fibre vs mineral wool), depends on your building's fabric, how it is used and its setting. It's important to ensure a balance between having enough insulation but also enough ventilation, so that moisture does not build up and cause damp issues.

What is heat loss?

Heat created inside a building by humans or radiators is naturally 'lost' to the outside of the building through openings like walls, windows and doors. This process is called heat loss.



How Par Bay Big Local did it

Sonia from Par Bay Big Local explains how they made their community building more energy-efficient and suitable to the different activities they run.

"We knew we had to improve the thermal efficiency of the building, which included adding insulation and putting in new doors.

The external walls also needed refurbishment and had to be insulated, they had single block walls and were in a parlous state when we took over the building!

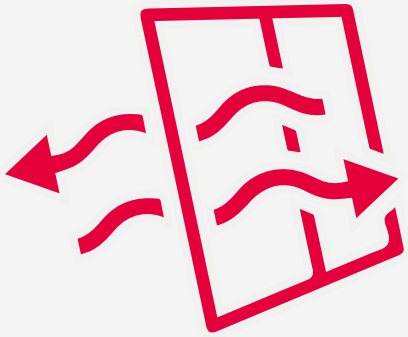
We also needed to make sure the space was as accessible as possible for our many community events and clubs, including dance classes, judo, taekwondo, karate, tai chi, concerts and pre-diabetes sessions.

The community room is used for digital support, health sessions, warm hub meals and many other uses as well, so making our changes around these activities was a key consideration."

Sonia, Par Bay Big Local



Above: Southampton Big Local (Photo: Benjamin Nwaneampeh)



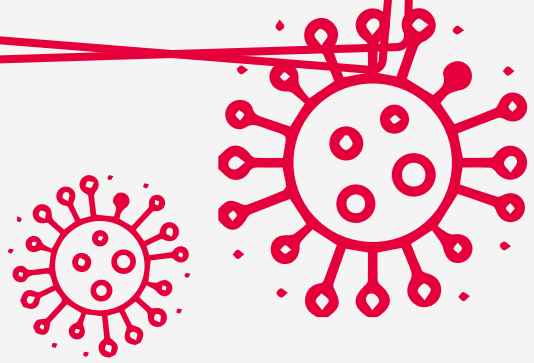
2. CHECK YOUR VENTILATION AND BUILDING FABRIC

Fundamentally, you want to decrease the level of unwanted moisture coming in through draughts (for example, a leaky roof, or poorly fitted windows and doors) and increase the amount of moisture you are deliberately ventilating out, to a level that suits your building's demands.

This is especially important in places where lots of people gather and exercise indoors. Ventilation can be done by opening windows, through extractor fans, or through trickle vents in windows. Balancing the amount of moisture and ventilation in your building should help ensure it is comfortable and keep damp at bay. Check out the UK Centre for Moisture in Buildings' guidance on managing moisture and dealing with mould.

WHY IS MOISTURE BAD IN BUILDINGS?

All buildings create moisture – from kettles boiling in the kitchen to the building users themselves. While some level of moisture is normal, too much trapped moisture can turn to damp and mould. This can create structural issues for your building and health issues for your users.



3. UNDERSTAND YOUR HEATING SYSTEMS FOR AIR AND WATER

Find out what system you use to heat your water and community space, and what fuel it uses. For example, you might have a gas boiler or an electric heating system like storage heaters. If you have a boiler, it's important to make sure it is serviced regularly to ensure it is operating efficiently.

Next, see how these systems are controlled and see if you can make use of timers or thermostats to only turn the systems on when you need them. You can also look at smart heating controls, which enable you to control your heating system via an app on a smartphone.

Adding thermostatic radiator valves (TRVs) can help regulate the temperature in different rooms. If you are considering a new system, consider a low-carbon option (such as a heat pump). The CSE website has several articles about different heating systems.



"IF YOU ARE INSTALLING ELECTRIC HEATERS, MAKE SURE YOU CAN CONTROL THEM REMOTELY. PEOPLE OFTEN FORGET TO SWITCH OFF HEATERS!"

Sonia, Par Bay Big Local



Right: Mablethorpe, Coastal Community Challenge Big Local (Photo: Harriet Marsden)

4. CONSIDER RENEWABLE ENERGY

It's best to reduce energy use and increase your building's energy efficiency as much as possible first, before considering renewable energy.

Generating your own renewable energy will reduce your building's carbon footprint and, if used well, reduce running costs. Solar panels (also known as solar photovoltaics or solar PVs) on your roof are one of the most common renewable energy technologies for buildings, but you might also look at solar thermal. You can find out more about different renewable technologies on CSE's website.



"WE HAVE BEEN LOOKING INTO GETTING SOLAR ON OUR ROOF FOR SEVERAL YEARS BUT HAD TROUBLE WITH THE ROOF NOT BEING ABLE TO SUPPORT THE WEIGHT OF THE SOLAR PANELS. WE HAVE RECENTLY HAD A CONVERSATION WITH A LOCAL ENERGY ADVICE CHARITY ABOUT SOLAR PV INSTALLATION AND HOPE THAT THIS WILL BE SOMETHING WE ARE ABLE TO DO IN THE FUTURE."

Sonia, Par Bay Big Local

Top tip

If you can't generate your own energy (and even if you can!), have a look at a 'green' tariff – this means buying your energy from a supplier that generates and sells renewable energy. Companies like Good Energy, Ecotricity and Green Energy UK all have green tariffs. These tariffs are better for the environment, although sometimes more expensive than non-green tariffs. Find out more information about 'green' tariffs from CSE.

How Marsh and Micklefield Big Local improved their building efficiency

One of Marsh and Micklefield Big Local's priorities was to improve the energy-efficiency of community buildings in the area, to reduce their environmental impact and ensure they remain well-used community assets for decades to come.

Big Local partnership member Jean approached CSE in 2022 to help improve the community centre, which was built in 1989. It was often difficult and expensive to heat, and users complained of it being cold. CSE worked with Jean and other partnership members to develop an action plan to retrofit it.

"I see this as a real step forward in investing in our community buildings, not just for current and future residents, but also the environment."

Jean, Marsh and Micklefield Big Local

The first step was to walk-around the building and do an audit. Jean, along with two volunteers, Ian and Vanessa, recorded key issues that needed tackling.

Ian got into the loft space and took photos of the loft insulation to assess what the coverage was like, and whether there was sufficient ventilation (this is often an issue, as without this you can end up with damp and decay of roof beams).

Jean then produced a report, highlighting the key issues. Based on Jean's report, the Big Local partnership agreed they would provide financial support for making energy efficiency improvements to the building.

The building's windows, which had single pane, loose-fitting glass and wooden frames, hadn't been maintained, and were letting heat escape. So Big Local contracted a company to replace the windows and doors throughout the building.

Now, Jean is investigating whether the community can get VAT relief on their energy bills. She'll also be getting a surveyor to come and assess the condition and coverage of the building's cavity wall insulation, which can deteriorate over time and sink down, meaning the top section of the walls becomes uninsulated.

The partnership are also on a continuous hunt for funding options to match the financial support from Marsh and Micklefield Big Local.

GETTING PROFESSIONAL HELP

Sometimes a walk-around audit, tweaks to existing systems and behaviours, and a maintenance schedule are all you need to make a building more energy-efficient. And sometimes, you need extra support from building professionals.

Consider your options and get quotes

Your walk-around audit may have thrown up more questions than answers. Get a professional tradesperson or surveyor to help you assess your options and relevant costs. Let them know that you have completed your own survey and what additional questions you have from your findings. You can then use your survey and theirs to shape your plans. If you are looking to make significant changes to your building or if your building is more than 100 years old, we recommend you seek input from a retrofit professional who will support you to take a 'whole building' approach (e.g. a Non-Domestic Energy Assessor) and, if relevant, a traditional buildings expert.





Top tip: How to find tradespeople

One of the key challenges to making energy efficiency improvements to your community building may be finding an installer. As with all building work, here are some tips for finding the right tradespeople:

- get recommendations from others who have made changes to their non-domestic buildings
- speak to previous customers and check online reviews
- get at least three quotes if possible, with each detailing the costs of all elements of the work
- use installers that are certified (see below for a list of recognised bodies involved in certification / accreditation / guarantees of energy efficiency and renewable energy products).

FINDING SPECIALIST TRADESPEOPLE

There are many professional trade bodies in the UK and specialist agencies that can help you carry out your planned works.

BUILDERS AND SURVEYORS

Federation of Master Builders is the UK's largest trade association in the building sector.

Green Register is an independent not-for-profit which trains construction professionals in building better, more sustainable buildings. They have a register of construction professionals.

The Royal Institution of Chartered Surveyors (RICS) is a global professional body for surveyors working in the built environment, construction, land, property and real estate.

ADVICE ORGANISATIONS

The Tywi Centre delivers specialist training and advice to support all aspects of sustaining our historic buildings across Wales and the UK.

STBA – UK Centre of Excellence for Traditional Buildings is an alliance of the UK's leading organisations associated with the conservation and improvement of traditional buildings.

LOW-CARBON TECHNOLOGIES

The **Microgeneration Certification Scheme** is a certification body for low-carbon energy technologies and contractors. You can also find local installers of any of the technologies on their website.

If you are looking to install solar panels, you should ensure the installer is registered with the Microgeneration Certification Scheme.





"WE HAD SEVERAL SURVEYS DONE INCLUDING ASBESTOS, STRUCTURAL, BAT, ENERGY SURVEY, AND A HEATING SYSTEM AUDIT. WE WOULD RECOMMEND CONSULTING AN EXPERT, BUT IT DOES COME WITH A PRICE."

Sonia, Par Bay Big Local

GETTING PERMISSION TO MODIFY YOUR BUILDING

Some energy efficiency improvements, such as replacing windows or doors, modifying your roof or installing new heating systems, will require a form of permission.

BUILDING CONTROL

A building control inspector will usually check your plans and then check your building works at different stages of completion to ensure you have followed building regulations. This government guidance will help you assess whether you need building control approval or not.

PLANNING PERMISSION

If you think you may need planning permission, we recommend you speak with your local planning department. This may come at a cost, but this will likely be small relative to the full project costs and will ensure you understand what you need to do to secure permission. The planning portal website is full of information and guidance.



ENERGY-EFFICIENCY CHECKLIST

Here's a summary of the actions you can take to make your building more energy-efficient.



- [ ] Do an audit of your building
- [ ] Gather data and start monitoring
- [ ] Write a maintenance plan
- [ ] Implement energy saving behaviours and low-cost measures
- [ ] Regulate your building's temperature
- [ ] Check your ventilation and building fabric
- [ ] Understand your heating systems for air and water
- [ ] Consider renewable energy
- [ ] Find a professional
- [ ] Consider your options and get quotes
- [ ] Check if you need permission to modify your building

Left: The Selby Centre (Photo: Alex Brenner)

JUST THE BEGINNING

This action plan has been created to help you make your community building more energy-efficient. Maintaining your building properly will save you money, and mean your building can be used for community activities for many years to come.



If you've found this toolkit useful, share it with someone else who might too!

SHARE IT

About the Centre for Sustainable Energy

CSE is an independent national charity formed in 1979. Our vision is a world where sustainability is second nature, carbon emissions have been cut to safe levels and fuel poverty has been replaced by energy justice. We share our knowledge and practical experience to empower people to change the way they think and act about energy.

About Big Local

Big Local is a resident-led funding programme, providing 150 areas in England with £1.15m each to spend across 10 to 15 years to create lasting change in their neighbourhoods. The programme is funded by the National Lottery Community Fund.

About Local Trust

Local Trust is a place-based funder supporting communities to transform and improve their lives and the places in which they live. We believe there is a need to put more power, resources, and decision-making into the hands of communities.

We do this by trusting local people. Our aims are to demonstrate the value of long term, unconditional, resident-led funding, and to draw on the learning from our work delivering the Big Local programme to promote a wider transformation in the way policy makers, funders and others engage with communities and place.

localtrust.org.uk

@LocalTrust

Front cover images:
Southampton Big Local (Photo: Andrew Aitchison)

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